AMENDMENTS TO THE CLAIMS:

Please amend the claims as detailed herein.

1. (Currently Amended) A method of imaging ~~the~~ semiconductor sites in an integrated circuit (IC), comprising the steps of:

setting-up a device that simultaneously produces two separate images of ~~the IC~~a sample of said IC from one light source~~,~~; and

refining ~~the~~said images to generate an exclusive high-contrast image of ~~the~~said semiconductor sites.

2. (Currently amended) The method of claim 1, wherein said method generates an exclusive high-contrast image of ~~the~~ metallic sites in ~~an~~the IC sample.

3. (Currently amended) The method of claim 1, wherein said device ~~is comprised of~~comprises:

an optical microscope set-up;

a light source that excites the IC sample;

a beam-scanning and sample-scanning mechanism to control ~~the~~a focused excitation beam and transverse and axial scanning of the IC sample;

a driving and control software to scan ~~the~~said focused excitation beam from one pixel location of the IC sample to another;

a personal computer (PC) to ~~implement the~~ control ~~of the instrument~~said optical microscope and said beam-scanning mechanism, ~~the~~a data acquisition system and ~~the~~ post-detection processing, ~~a~~wherein said data acquisition system ~~consisting of~~includes two analog-to-digital converters to digitize ~~the~~a photodetector signal and ~~the~~a 1P-OBIC signal and store ~~it~~ said photodetector signal and said 1P-OBIC signal in ~~the~~said PC;

a data control software ~~which~~that allows ~~the~~said PC to control ~~the~~said scanning of ~~the~~said focused beam on the IC sample and to acquire ~~the~~a resulting confocal reflectance signal and 1P-OBIC signals that are generated from the IC sample; and

a photodetector to convert ~~the~~said confocal reflectance signal from the IC sample

into an equivalent electrical signal ~~which~~that is sampled by ~~the~~said analog-to-digital converters to ~~the~~said PC.

4. (Currently amended) The method of claim 3, wherein said microscope is a beam-scanning confocal reflectance microscope that simultaneously generates both a one-photon optical beam-induced current (1P-OBIC) image and a confocal reflectance image of the IC sample.

5. (Currently amended) The method of claim 3, wherein said light source is selected from the group consisting of a laser and a spectrally filtered light source with a broadband spectrum.

6. (Cancelled)

7. (Currently amended) The method of claim~~s~~ 5 ~~and 6~~, wherein said device includes ~~via a beam splitter, the output beam of the light source is directed to~~ a scanning mirror system ~~composed of~~having two galvanometer mirrors for x and y scanning, and two lenses that constitute a 4f transfer lens, wherein said light source has an output beam that is directed to said scanning mirror system via a beam splitter.

8. (Currently amended) The method of claim 7, wherein said device includes another pair of lenses that expand~~s~~ and collimate~~s~~ ~~the~~said scanned output beam and inputs ~~it~~said scanned output beam to an optical microscope assembly.

9. (Currently amended) The method of claim 8, wherein said device includes an Infinity-corrected objective lens that focuses ~~the~~said beam into ~~the~~an exposed top surface of ~~the~~said integrated circuit.

10. (Currently amended) The method of claim 9, wherein said device includes a pair of digital-to-analog converters to achieve precise two-dimensional scan control of ~~the~~said focused beam ~~is achieved via a pair of digital-to-analog converters~~.

11. (Currently amended) The method of claim 10, wherein ~~the~~ said device provides reflected light that is collected back by ~~the~~said Infinity-corrected objective lens and focused by a lens towards a pinhole that is placed in front of said photodetector.

12. (Currently amended) The method of claim 11, wherein ~~the~~said 1P-OBIC is measured by inputting ~~the~~an output of ~~the~~said pinhole that is nearest to ~~the~~a probe surface area to a current-to-voltage converter composed of an operational amplifier and a feedback resistor.

13. (Currently amended) The method of claim 12, wherein ~~the~~ said device includes another converter input that is ~~the~~a common reference for ~~the~~ electronic circuits including the integrated circuit sample.

14. (Currently amended) The method of claim 1, wherein ~~the~~said exclusive high-contrast image of ~~the~~said semiconductor site is derived from ~~the~~a pixel to pixel product of ~~the~~an IP-OBIC image and ~~the~~a confocal reflectance image using ~~the~~an equation $s(x,y,z)=i_r(x,y,z)i_s(x,y)$ where $s(x,y,z)\geq 0$.

15. (Currently amended) The method of claim 2, wherein ~~an~~said exclusive high-contrast image of ~~the~~said metallic sites is obtained from ~~the~~a product of ~~the~~a complementary OBIC image and ~~the~~a confocal image using ~~the~~an equation: $m(x,y,z)=i_r(x,y,z)i_m(x,y)$ where $i_m(x,y)=\kappa-i_s(x,y)$ and κ is a constant that represents ~~the~~a highest $s(x,y,z)$ value that is possible for a given optical set-up.